

Early Acheulian stone assemblages ~1.7-1.6 Ma from Gona, Ethiopia

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The earliest Acheulian in East Africa is dated to ~1.75 million years ago (Ma) and is well documented at Kokiselei in Kenya, and at Konso in Ethiopia. Archaeological investigations at Gona, in the Afar Depression of Ethiopia, have also produced early Acheulian stone assemblages dated to ~1.7-1.6 Ma. Several sites at Gona, including DAN-5, BSN-12, BSN-17 and OGS-12, have yielded archaeological materials comparable to Konso. The stone assemblages from the Gona sites consist of 'large cutting tools' including unifacially and bifacially shaped crude handaxes and picks, as well as Mode I (Oldowan) cores, and débitage. Although technologically similar, at Konso a majority of the bifaces were made on flake blanks, whereas at Gona they were made equally on cobbles as well as large flakes (>10 cm). A variety of raw materials were exploited at Gona, but trachyte and rhyolite were the most utilized for making the large cutting pieces, particularly at BSN-12, -17 and DAN-5, and basalt dominated at OGS-12. The differences could be related to proximity to raw material sources. At BSN-12, -17 and DAN-5 raw materials were locally available, whereas the source(s) for OGS-12 have yet to be identified.

Currently, Kokiselei, Konso and Gona are providing great opportunities for investigating the adaptive significance of early Acheulian technology ~1.75-1.6 Ma. Nonetheless, our understanding of the archaeological and ecological background for the emergence of the Acheulian is still limited. Preliminary comparisons between OGS-12 and the other early Acheulian sites demonstrate variability in paleoecological settings as well as raw material use.

Current archaeological evidence indicates that emergent *Homo erectus/ergaster* use of this new technology ~1.75-1.6 Ma was already in place in East Africa. The Gona team plans to continue survey and excavations to document sites with potential to yield traces of archaeological materials for understanding the Oldowan-Acheulian transition and the adaptive significance of the large cutting tools in *Homo erectus/ergaster* life ways.